WHAT IS CLAIMED IS:

1. A processor having a plethysmograph waveform input and a pulse recognition output providing information regarding pulses within said waveform input, said processor comprising:

a candidate pulse portion that determines a plurality of potential pulses within said waveform input; and

a physiological model portion that determines the physiologically acceptable ones of said pulses.

2. The processor of Claim 1 further comprising a portion that determines statistics of pulses with said waveform input.

3. The processor of Claim 2 wherein one of said statistics is the density of physiologically acceptable pulses within said waveform input.

4. The processor of Claim 1 wherein said candidate pulse portion provides an output identifying said potential pulses as the peaks and valleys of a triangular wave.

5. The processor of Claim 1 wherein said physiological model portion comprises a component that extracts features of said potential pulses.

6. The processor of Claim 5 wherein said features include at least one of pulse period, pulse starting point and pulse signal strength.

7. The processor of Claim 1 wherein said physiological model portion comprises a component that disregards ones of said potential pulses having a period below a predetermined threshold.

8. The processor of Claim 1 wherein said physiological model portion comprises a component that disregards ones of said potential pulses that are generally asymmetric.

9. The processor of Claim 1 wherein said physiological model portion comprises a component that disregards ones of said potential pulses that have a descending trend that is generally slower that a subsequent ascending trend.

10. The processor of Claim 1 wherein said physiological model portion comprises a component that disregards ones of said potential pulses that do not

sufficiently comply with an empirical relationship between pulse rate and pulse signal strength.

11. The processor of Claim 1 wherein said physiological model portion comprises a component that disregards ones of said potential pulses having a signal strength that differs from a short-term average signal strength by greater than a predetermined amount.

12. A method of recognizing pulses within a plethysmograph waveform comprising the steps of:

identifying a plurality of potential pulses in said waveform; and

comparing said potential pulses to a physiological pulse model to derive at least one physiologically acceptable pulse.

13. The method of Claim 13 comprising the further step of generating statistics for said at least one acceptable pulse.

14. The method of Claim 14 wherein said generating step comprises the steps of:

determining a total period of said at least one acceptable pulse;

calculating the ratio of said total period to a duration of said waveform to derive pulse density.

15. The method of Claim 13 where said comparing step comprises the steps of:

extracting pulse features from said potential pulses; and

checking said features against a plurality of pulse criteria.

8. 16. A pulse recognition processor comprising:

a candidate pulse subprocessor means for identifying potential pulses in an input waveform and providing a triangular waveform output;

a plethysmograph model subprocessor means for determining physiologically acceptable pulses in said triangular waveform output and providing as a pulse output the indices of acceptable pulses.

17. The pulse recognition processor of Claim 17 further comprising a pulse statistics subprocessor means for determining cumulative pulse characteristics from said pulse output.